

PRECISION SPINDLE INSTRUMENT HOLDER FOR SURGICAL INSTRUMENT

Abstract of the Invention

A surgical instrument holder (10) is made up of a head assembly (68) and a drive spindle assembly (42). The head assembly (68) has a shank (12) with a first driveable end (14) and second coupling end (16). The second end has a coupling device (20) having an interface (22) for receiving a surgical instrument (24). The instrument (24) is held in functional assembly to the shank by a releasable locking mechanism (26). The releasable locking mechanism (26) is made up of a ring (30) slideably disposed about the shank, a spring (32) biased against the coupling device (20) by the ring, and a connection device (34) retaining the ring in a fixed position during use. The drive spindle assembly (42) is connected to the head assembly (68) so as to transmit torque therethrough. The spindle assembly (42) has an elongated drive spindle (40), high-precision bearings (44, 120, 122) and a cylindrical tube (46). The drive spindle (40) is releasably mounted to an end (36) of the spindle assembly and is supported for rotation within the cylindrical tube (46) by the high-precision bearings disposed therebetween and held in place at least in part by the shank (12). The bearings (44) precisely control the position of a surgical instrument (24) affixed thereto. The connection device (34) provides a common quick-release connection with the head assembly (68) and the drive spindle assembly (42), such that unlocking of the connection device (34) enables quick disassembly of the connection device, spring (32), ring (30), and drive spindle assembly (42) for cleaning and component sterilization.